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Research Article

A Prospective Study of Assessment of Anti-Hypertensive Drug Utilization Pattern and Clinical Birth Outcome

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ABSTRACT

Introduction: Hypertensive disorders complicate between 5% and 10% of all pregnancies. Pre-eclampsia complicates 2-8% of all pregnancies worldwide. Eclampsia, however, has declined due to improved prenatal care, and the increased use of antenatal therapies (e.g. blood pressure control, magnesium seizure prophylaxis) as well as timely delivery by induction of labor or cesarean section which serves as a cure for pre-eclampsia/eclampsia. **Aim:** To determine the frequency and distribution of different types of anti hypertensive disorders of pregnancy and asses the drug utilization pattern of anti hypertensive drugs in pregnancy & their clinical outcome. **Method:** A prospective study was conducted over period of six months in inpatient of gynaecology and obstetrics department at ASCR govt hospital Nellore. District (AP). patients are diagnosed as hypertensive disorder of pregnancy were taking demographics, present complaints, gestational age, diagnosis ,blood pressure monitoring, current medications, anti hypertensive medication drugs prescribed, we are collected drug utilization pattern and their clinical outcome checked. **Results:** A majority of the patients are taken combination therapy(60%),and another patients are taken normal therapy(40%), in this our study methyl dopa is safest drug, and second drug choice is Nifedipine and third drug is labetalol, when ever using of these drug we observed there is no maternal and foetal effects using of these drugs in patients. **Conclusion:** Whenever using the ARB or ACE blockers in pregnant patients, these type of the drugs produces congenital anomolies in pregnant patients.

Keywords: pregnancy in hypertension, eclampsia, preeclampsia, chronic hypertension.

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1. Introduction

Definition: hypertension in pregnancy defined as a systolic blood pressure \geq 140mm of Hg & diastolic BP \geq 90mm of

Hg on two separate measurements at least 4-6 hrs apart. Hypertensive disorders in pregnancy, including chronic hypertension, with or without superimposed pre-

eclampsia/eclampsia, gestational hypertension¹⁻⁵, HELLP syndrome, preeclampsia with or without severe features or eclampsia present significant risk of morbidity and mortality. Pregnancy induced hypertension (PIH) that occurs after 20 weeks of the gestation in women with previously normal blood pressure. The normal blood pressure systolic 120-129& diastolic blood pressure less than 80 mm of Hg. The gestational hypertension in pregnancy it develops 20 weeks pregnant. Hypertension in pregnancy are classified in to 4 categories are recommended by national high blood pressure education programme working group on high blood pressure in pregnancy⁶⁻⁹.

- Describe hypertension in pregnancy.
- Outline different types of anti hypertensive drugs used in hypertension in pregnancy patients.
- After using different anti hypertensive medications in pregnancy & clinical outcome also checked.
- This to study and evaluate the drug utilization pattern and clinical birth outcome in pregnant patients in tertiary care hospital.
- To evaluate the using of different anti hypertensive drugs in pregnancy.
- To find out the complications of different anti hypertensive drugs in pregnancy.

2. Methodology

The retrospective study was conducted in obstetrics gynecology department in DSRgovt hospital.

Inclusion Criteria:

- The Prospective study was conducted on pregnancy patients.
- The data collected from pregnant case sheets& ante natal reports.
- The period of the study will be Jan 2023 to April 2023.
- The study will be conducted on between the age group of 25-35 are taken.
- The study will be conducted based on inclusion & exclusion criteria.
- The patients of pregnancy with hypertension who are willing to participate in this study.
- The patients who are taken anti hypertensive medication with pregnancy case sheets were collected.
- Our project size will be 70-80 patient case sheets are collected.
- The patients are who are receiving anti hypertensive medications, and also collected for different anti hypertensive drugs utilization pattern.
- After using the anti hypertensive medication & collected reports of birth outcomes also.

Exclusion Criteria:

- Non-pregnancy patients will be excluded from this study.
- Obese& diabetes patients are also excluded from this study.
- Males also excluded from this study.
- Who are not willing to participate in this study are also excluded.
- The age of above 35 years patients also excluded from this study.

3. Results and Discussion

Table no: 1 Total number of hypertension patients

Type of Hypertension	Number of Patients	Percentage
Pre- eclampsia/ eclampsia hypertension	39	48.75
Preeclampsia superimposed on chronic hypertension	21	26.25
Gestational hypertension	12	15
Chronic hypertension	8	10

Table no: 2 According to diet

Diet	Number Of Patients	Percentage
Non- vegetarian	50	62.5
Mixed	30	37.5

Table no: 3 Age Wise Distribution Hypertensive Disorders in Pregnancy

Age in Years	Gestational Hypertension	Eclampsia	Preeclampsia	Chronic Hypertension	Percentage (%)
18-22	15	6	30	0	58.5%
23-27	17	10	33	0	68.25%

>32	5	5	15	2	27.5%
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Table no: 4 Different Drug Distribution in Pregnancy

Serial Number	Type of Hypertension	Type Of The Drug	N%
1.	Preeclampsia	Methyl dopa	37%
2.	Super imposed on chronic hypertension	labetolol	5%
3.	Gestational hypertension	labetolol	50%
4.	Chronic hypertension	Hydralazine, nifedipine	6%
5.	preeclampsia	labetolol	37%

Table no: 5 Safety drugs using in different types of hypertension in pregnancy

Type Of Hypertension	Type of the Drug	Dosage Form
Severe hypertension	labetolol	10to 20mg every 20-30min 300mg of IV infusion
Severe hypertension	hydralazine	5mg IVor IM
Severe hypertension	nifedipine	10 to 30 mg
Severe hypertension	diazoxide	30 to 50mg every 5 to 15min
Severe hypertension	Nitroprusside	0.25to 0.025ug/kg

Table no: 6 Blood Pressure Range of Patients before Administration of Drugs

Blood pressure classification	Systolic/diastolic BP	Number of patients
Hypertension stage I	140-159/90-99	52
Hypertension stage II	>160/90	28

Table no: 7 Neonatal Outcomes

Neonatal Outcome	Number Of Patients	Percentage
Low birth weight babies	30	37.5
Foetal distress	28	35
IUGR	19	23.75
DEATH	3	0.37

Table no: 8 Number of Anti Hypertensive Drugs

Number Of Drug	Number of thePatients	Percentage
Single drug	30	37.5
Two Drugs (methyldopa+labetalol	28	35
Three drugs(methyl dopa+labetalol+nifedipine	22	27.5

Important role and have been suggested to play a vital role in the prevention of HDP including pre eclampsia. Eating excess meat, fish, etc. leads to weight gain (obesity). In this dietary factors are an essential predictor of hypertension with pregnancy¹⁰⁻¹¹. Dietary factors play an important role, Excess weight gain during pregnancy can increase the risk of certain health issues such as gestational diabetes and high blood pressure pregnancy. Excess weight also makes it difficult to lose weight after pregnancy. Women with overweight or obese are encouraged to limit weight gain during pregnancy, ideally by modifying their lifestyle.

Discussion

From this above this study we are taken 80 patients from this study, in this study 30% patients are having

preeclampsia, and 40% patients are suffering gestational hypertension, 3% patients are suffering the chronic hypertension, and 5% patients are suffering superimpose preeclampsia disease. From this study the most common safest anti hypertensive drug is methyl dopa, and the second drug choice Nifedipine, and third drug choice labetalol are safest drugs are whenever using these drugs in pregnant patients no effect on pregnant patients. Methyl dopa was found to be the commonest prescribed anti hypertensive in mono therapy and combination, as it is safe during pregnancy¹⁰⁻¹³. The incidence of Low birth weight babies was high which may be due to either effect of maternal hypertension or drugs which should be evaluated by further studies.

4. Conclusion

From this study using of different anti hypertensive drugs in pregnancy, the most common safest drug is methyldopa for hypertension in pregnancy patients. Second line drug is Nifedipine, and third line drug is labetalol, when ever using of this drugs in hypertension in pregnancy there is no maternal and foetal effects in pregnant patients. Whenever using the ARB or ACE blockers in pregnant patients, these type of the drugs produces congenital anomalies in pregnant patients.

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